

WHAT IS CLAIMED IS:

1. For use with a circuit having first and second complementary drivers exhibiting different current gain characteristics, a balancing circuit, comprising:

a sensing subcircuit configured to provide a correction signal indicating a first current gain characteristic of said first driver; and

a compensation subcircuit configured to generate a current gain compensation signal to said first driver to substantially match a second current gain characteristic of said second driver based on said correction signal.

2. The balancing circuit as recited in Claim 1 wherein said first driver comprises a plurality of vertical PNP transistors.

3. The balancing circuit as recited in Claim 1 wherein said second driver comprises a plurality of vertical NPN transistors.

4. The balancing circuit as recited in Claim 1 wherein said sensing subcircuit comprises at least one diode-connected transistor configured to substantially replicate said current gain characteristic of said first driver.

5. The balancing circuit as recited in Claim 1 wherein said  
2 compensation subcircuit comprises a current repeater.

6. The balancing circuit as recited in Claim 1 wherein said  
2 compensation subcircuit comprises emitter coupled logic configured  
3 to provide said current gain compensation signal.

7. The balancing circuit as recited in Claim 1 wherein said  
2 first and second current gain characteristics comprise a ratio of  
3 collector-to-base current of devices associated with said first and  
4 second drivers.

8. For use with a circuit having first and second  
2 complementary drivers exhibiting different current gain  
3 characteristics, a method of operating a balancing circuit,  
4 comprising:  
5 providing a correction signal indicating a first current  
6 gain characteristic of said first driver; and  
7 generating a current gain compensation signal to said  
8 first driver to substantially match a second current gain  
9 characteristic of said second driver based on said correction  
10 signal.

9. The method as recited in Claim 8 wherein said first  
2 driver comprises a plurality of vertical PNP transistors.

10. The method as recited in Claim 8 wherein said second  
2 driver comprises a plurality of vertical NPN transistors.

11. The method as recited in Claim 8 wherein said providing  
2 is performed by a sensing subcircuit including at least one diode-  
3 connected transistor that substantially replicates said current  
4 gain characteristic of said first driver.

12. The method as recited in Claim 8 wherein said generating  
2 is performed by a compensation subcircuit including a current  
3 repeater.

13. The method as recited in Claim 8 wherein said generating  
2 is performed by a compensation subcircuit including emitter coupled  
3 logic that provides said current gain compensation signal.

14. The method as recited in Claim 8 wherein said first and  
2 second current gain characteristics comprise a ratio of collector-  
3 to-base current of devices associated with said first and second  
4 drivers.

15. A phase locked loop (PLL) circuit, comprising:

a voltage controlled oscillator, coupled to a filter circuit,  
that receives a signal associated with a charging signal and  
provides an output signal having an output frequency;

a comparator circuit that provides a comparison signal  
proportional to a phase difference between said output signal  
having said output frequency and an input reference signal having  
an input frequency; and

a charge pump that provides said charging signal via first and  
second complementary drivers exhibiting different current gain  
characteristics, said charge pump employing a balancing circuit,  
including:

a sensing subcircuit that provides a correction signal  
indicating a first current gain characteristic of said first  
driver; and

a compensation subcircuit that generates a current gain  
compensation signal to said first driver to substantially  
match a second current gain characteristic of said second  
driver based on said correction signal.

16. The PLL circuit as recited in Claim 15 wherein said first  
driver comprises a plurality of vertical PNP transistors.

17. The PLL circuit as recited in Claim 15 wherein said  
2 second driver comprises a plurality of vertical NPN transistors.

18. The PLL circuit as recited in Claim 15 wherein said  
2 sensing subcircuit comprises at least one diode-connected  
3 transistor that substantially replicates said current gain  
4 characteristic of said first driver.

19. The PLL circuit as recited in Claim 15 wherein said  
2 compensation subcircuit comprises a current repeater.

20. The PLL circuit as recited in Claim 15 wherein said  
2 compensation subcircuit comprises emitter coupled logic that  
3 provides said current gain compensation signal.

21. The PLL circuit as recited in Claim 15 wherein said first  
2 and second current gain characteristics comprise a ratio of  
3 collector-to-base current of devices associated with said first and  
4 second drivers.